

*Application No. 10/657,707
Amendment dated January 31, 2005
Reply to Office Action of September 29, 2004*

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Remarks/Arguments

Claims 1 to 8 and 10 to 34 are pending in the application.

No new matter has been added by the amendments made herein, the bases for which amendments are described below.

An obvious clerical error in claim 6 has been corrected.

Claim Objections

Each of claims 1, 11 and 14 were objected to for reference within the claim to "a said latch" where there is no recitation of a latch within the aforementioned claim. The preamble of each of independent claims 1 and 14 has been amended to clarify that the word "latch" as used therein is a noun and not merely a modifier of the word "device". Applicants believe this meets the objection.

Claim Rejections - 35 USC § 102

Each of claims 1 to 2 and 5 to 13 were rejected as being anticipated by United States Patent No. 6,698,805, "Erices".

Independent claim 1 has been amended to require that Applicants device have "a recessed region and a tubular mount extending from the center of the recessed region" and that the worm gear be "rotatably mounted to the tubular mount."—None of the cited prior art recites a housing having a recessed region and a tubular mount extending from the center of the recessed region. Specifically, in Erices, the base of the drive unit 6 is flat and in the same plane as its mounting structure (Fig. 1).

In contrast, as can clearly be seen in Fig. 3 of the Application, worm wheel 40 is rotatably mounted to cylindrical post 82 within a recessed region. During assembly, worm wheel 40 is better retained within in the housing by the recessed region prior to the closure plate 32 being affixed to the housing. Worm wheel 40 is less likely to

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accidentally exit the recessed region and fall out of the housing, making assembly quicker and less costly. In addition, cylindrical post 82 provides a stable axle for the worm wheel prior to closure plate 32 being attached. The axis of rotation for worm wheel 40 remains in a constant plane during assembly. This stability also assists in the assembly of the power actuator.

As claims 2 to 13 depend from amended claim 1, allowance of these claims is also respectfully requested.

Claim Rejections - 35 USC § 103

Claims 3 to 14 were rejected as being unpatentable over Erices in view of Ehret for the reasons detailed on pages 5 to 7 of the Office Action. In response, the applicants have amended claim 1, as is described above. Claims 3 to 13 depended from amended claim 1. Independent claim 14 has also been amended to recite a device having "a housing having a recessed region and a tubular mount extending from the center of the recessed region; ...a worm gear, in meshing engagement with the worm and rotatably mounted to the tubular mount for rotation about an axis substantially orthogonal to the worm axis; ...an integral camshaft depending from the cam and extending through an aperture on the worm gear and having a rotation axis coincident with the gear axis, the distal end of the camshaft includes at least one resilient finger received through the aperture and in abutting contact with a surface of the gear that faces away from the cam to preclude axial withdrawal of the camshaft from the aperture..."

Neither Erices, Ehret, or Erices in view of Ehret teach worm gear rotatably mounted to the tubular mount within a recessed region of the housing. Thus, for the reasons cited above, allowance of claims 3 to 14 is respectfully requested.

The specification and abstract have also been amended to take into account the foregoing amendments to the claims.

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Applicants respectfully submit that the above amendments are fully supported by the application as originally filed, and do not constitute the addition of any new subject matter to the application.

Independent claim 24 is new in the application. Claims 25 to 34, each of which is ultimately dependent from claim 24, add elements defined by claims 4 to 13, respectively, as originally filed.

New claim 24 includes all the limitations of original claim 1 in combination with limitations of claims 2 and 3 as filed. This combination of elements stands rejected as being unpatentable under 35 U.S.C. § 103(a) over Erices in view of Ehret. For the reasons set out below, Applicants respectfully disagree.

Erices describes a lock with a drive unit 6 that includes cam wheel 9 mounted on drive shaft 12. As Erices himself states, "the drive unit 6 actuates the detent pawl lever 5 in both directions of rotation and the cam wheel 9 in one direction of rotation with a low step-down ratio acts on the detent pawl 4, in the other direction of rotation on the other hand on the detent pawl 4 with a larger step-down ratio. In FIG. 2 the direction of rotation of the cam wheel 9 clockwise is the direction of rotation which is first in this sense with a low step-down ratio, but higher speed, the direction of rotation of the cam wheel 9 counterclockwise corresponds to the second direction of rotation with the higher step-down ratio and lower speed. In terms of control engineering of course the torque of the electric drive motor 7 or another characteristic quantity must be acquired in order to establish that it is necessary to switch from one operating mode to the other, for example when an especially high door counterpressure has been set (for example, after an accident). The concept implemented here makes it possible to achieve different speeds and moments with unchanged triggering of the electric drive motor 7, therefore abandoning phase angle control or pulse width modulation." See column 8, lines 10 to 29.

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As indicated earlier in the specification, "other important small parts such as the detent pawl springs, rotary latch springs or combined tension springs, leg springs for pretensioning of the detent pawl lever 5, microswitches or Hall sensors, printed conductors or circuit board, etc. are not shown." See column 6, lines 39 to 44.

One can thus appreciate that generally speaking, the Erices device has a pawl lever which is biased against a cam wheel that serves to position the lever by rotation from the FIG. 2 position in either the clockwise or counterclockwise direction, as appropriate, under control of a drive unit. This is completely different from Applicants' claimed invention in which a cam rotates from a first position in only one direction to second position, as claimed in claim 24, and then simply returns to the first position under power of the restorative energy of a spring.

There is no evident purpose to biasing Erices' drive unit itself against rotation in one or the other of its two directions of operation from the FIG. 2 position, and so there is no motivation to modify Erices' device in such a way that it would have all the elements of Applicants' invention as defined by claim 24. Claim 24 requires a "*spring connected between the gear and the housing so as to bias the worm gear against rotation from the first position to the second position and such that energy is transferred from the motor to the spring as the gear rotates from said first position to said second position under control of the motor and, when the motor is powered down, the energy stored in the spring causes the gear to rotate in a second direction, opposite to the first direction, from the second position to the first position.*" In fact, given the stated advantage of the Erices device as described of achieving the possibility of "different speeds and moments with unchanged triggering of the electric drive motor", the introduction of additional biasing of the motor itself would necessarily complicate the Erices arrangement beyond what is necessary for its intended purpose.

As there is no evident purpose to biasing the drive unit of Erices against rotation, no motivation is provided by the prior art to modify the drive unit of the Erices device as

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suggested in the most recent Action. Further, insofar as the suggested combination of elements would necessarily produce a more complicated device, and as no advantage is suggested in the Action to be obtained by such modification, the prior art in fact teaches away from the suggested combination. Applicants thus respectfully submit that Applicants' invention as defined in claim 24 is patentable over Erices in view of Ehret.

Insofar as each of new dependent claims 25 to 34 contain all of the limitations of claim 24, Applicants believe these claims too are patentable over Erices in view of Ehret.

In view of the above amendments and remarks, it is believed that the application is now in condition for allowance.

A petition for extension of time for responding to the outstanding Action accompanies this response.

In the event that any official wishes to telephone, the call should be directed to the undersigned at (416) 865-8121.

Yours very truly,



January 31, 2005
Date

John C. Hunt
Registration No. 36,424

Torys LLP (Customer No. 33,721)
Suite 3000
79 Wellington Street West
Box 270, TD Centre
Toronto, Ontario
M5K 1N2
Canada

5098886.2
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